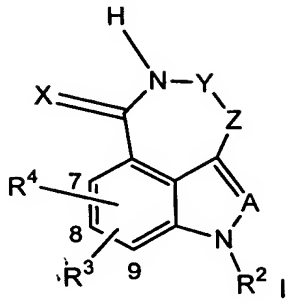
We Claim:

1. A compound of the formula:



wherein:

X is =O or =S;

A is $=CR^1-$ or =N-;

The group -Y-Z- has the formula $-O-CH_2-$ or -N=CH-;

R^1 is:

(a) (C_1-C_8)alkyl;

(b) $-C(=O)-R^5$;

(c) $-C(=O)-NR^6R^7$; or

(d) R^{35}, or R^{36}, (C_2-C_8)alkenyl, or (C_2-C_8)alkynyl {wherein each of said (C_2-C_8)alkenyl or (C_2-C_8)alkynyl is unsubstituted or substituted with one to four substituents independently selected from the group consisting of F, Cl, OH, $-NH_2$, R^{40}, and R^{42}};

R^2 is

(a) H, OH, or (C_1-C_8)alkyl;

(b) $-C(=O)-R^8$;

(c) $-(C=S)-R^9$ or $-(C=S)-NR^{10}R^{11}$; or

(d) R^{38} or R^{39};

R^3 is

(a) (C_1-C_8)alkyl;

(b) $-C(=O)-R^{12}$;

(c) $-C(=O)-NR^{13}R^{14}$;

(d) $-NR^{15}-C(=O)-R^{16}$;

(e) $-NR^{17}-SO_2R^{18}$;

(f) $-NR^{19}-SO_n-NR^{20}R^{21}$ {wherein n is 1 or 2};

(g) $-NR^{22}-(C=S)-R^{23}$ or $-NR^{22}-(C=S)-NR^{23}R^{24}$;

(h) R^{36}, (C_2-C_8)alkenyl, or (C_2-C_8)alkynyl {wherein each of said R^3 (C_2-C_8)alkenyl or (C_2-C_8)alkynyl is unsubstituted or substituted with one to four substituents independently selected from the group consisting of $-(C=O)-O-(C_1-C_8)$alkyl, $-O-(C=O)-(C_1-C_8)$alkyl, $-(C=O)-(C_1-C_8)$alkyl, R^{40}, R^{41}, and R^{42}};

(i) R^{37}, $-NH_2$, $-NH((C_2-C_8)$alkenyl), $-NH((C_2-C_8)$alkynyl), $-N((C_1-C_8)$alkyl)$((C_2-C_8)$alkenyl), or $-N((C_1-C_8)$alkyl)$((C_2-C_8)$alkynyl) {wherein each of said R^{26} (C_2-C_8)alkenyl or (C_2-C_8)alkynyl is unsubstituted or substituted with one to four substituents independently selected from the group consisting of R^{40}, R^{41}, and R^{42}}; or

(j) R^{38};

R^4 is selected from the group consisting of H, F, Br, Cl, and (C_1-C_8)alkyl;

R^5 is selected from the group consisting of H, (C_1-C_8)alkyl, (C_1-C_8)alkyl-O-, and R^{36};

Each R^6 and R^7 are independently selected from the group consisting of H, (C_1-C_8)alkyl, and R^{36};

R^8 is selected from the group consisting of (C_1-C_8)alkyl, (C_2-C_8)alkenyl, (C_2-C_8)alkynyl, $-NH_2$, R^{36}, and R^{37};

Each of R^9, R^{10} and R^{11} are independently selected from the group consisting of H, (C_1-C_8)alkyl, and R^{36};

R^{12} is selected from the group consisting of H, OH, (C_1-C_8)alkyl, (C_1-C_8)alkyl-O-, and R^{36};

R^{13} is H or (C_1-C_8)alkyl;

R^{14} is selected from the group consisting of H, (C_1-C_8)alkyl, $-CH_2-(C=O)-O-(C_1-C_8)$alkyl, and R^{36};

R^{15} is H or (C_1-C_8)alkyl;

R^{16} is selected from the group consisting of H, (C_1-C_8)alkyl, (C_2-C_8)alkenyl, (C_2-C_8)alkynyl, $-NH_2$, R^{36}, and R^{37};

wherein said R^{16} (C_2-C_8)alkenyl or (C_2-C_8)alkynyl is unsubstituted or substituted with one to four substituents independently selected from the group consisting of R^{40};

R^{17} is selected from the group consisting of H, (C_1-C_8)alkyl, and R^{36};

R^{18} is (C_1-C_8)alkyl or R^{36};

R^{19}, R^{20}, and R^{21} are independently selected from the group consisting of H, (C_1-C_8)alkyl, and R^{36};

R^{22}, R^{23} and R^{24} are independently selected from the group consisting of H, (C_1-C_8)alkyl, and R^{36};

R^{25} is H or $(C_1\text{-}C_8)$alkyl;

R^{26} is selected from the group consisting of $-C(=O)\text{-}O\text{-}C(CH_3)_3$, $(C_1\text{-}C_8)$alkyl, $-(CR^{13}R^{15})_t(C_3\text{-}C_{10})$cycloalkyl, $-(CR^{13}R^{15})_t(C_2\text{-}C_{10})$heterocyclyl, $-(CR^{13}R^{15})_t(C_6\text{-}C_{10})$aryl, and $-(CR^{13}R^{15})_t(C_1\text{-}C_{10})$heteroaryl; wherein t is an integer from 0 to 2;

or R^{25} and R^{26} may optionally be taken together with the nitrogen to which they are attached to form a 5 to 8-membered heteroaryl or heterocyclyl ring;

R^{27} is selected from the group consisting of $(C_1\text{-}C_8)$alkyl, $(C_3\text{-}C_{10})$cycloalkyl, $(C_2\text{-}C_{10})$heterocyclyl, $(C_6\text{-}C_{10})$aryl, and $(C_1\text{-}C_{10})$heteroaryl;

R^{28} is selected from the group consisting of $(C_1\text{-}C_8)$alkyl, $(C_3\text{-}C_{10})$cycloalkyl, $(C_2\text{-}C_{10})$heterocyclyl, $(C_6\text{-}C_{10})$aryl, and $(C_1\text{-}C_{10})$heteroaryl;

R^{29} is H or $(C_1\text{-}C_8)$alkyl;

R^{30} is $(C_1\text{-}C_8)$alkyl, $(C_3\text{-}C_{10})$cycloalkyl, $(C_2\text{-}C_{10})$heterocyclyl, $(C_6\text{-}C_{10})$aryl, or $(C_1\text{-}C_{10})$heteroaryl;

or R^{29} and R^{30} may optionally be taken together with the nitrogen to which they are attached to form a 5 to 8-membered heteroaryl or heterocyclyl ring;

R^{31} is H or $(C_1\text{-}C_8)$alkyl;

R^{32} is independently selected from the group consisting of $(C_1\text{-}C_8)$alkyl, $(C_3\text{-}C_{10})$cycloalkyl, $(C_2\text{-}C_{10})$heterocyclyl, $(C_6\text{-}C_{10})$aryl, and $(C_1\text{-}C_{10})$heteroaryl;

or R^{31} and R^{32} may optionally be taken together with the nitrogen to which they are attached to form a 5 to 8-membered heteroaryl or heterocyclyl ring;

R^{33} is $(C_1\text{-}C_8)$alkyl, $-(CR^{13}R^{15})_q(C_3\text{-}C_{10})$cycloalkyl, $-(CR^{13}R^{15})_q(C_2\text{-}C_{10})$heterocyclyl, $-(CR^{13}R^{15})_q(C_6\text{-}C_{10})$aryl, or $-(CR^{13}R^{15})_q(C_1\text{-}C_{10})$heteroaryl; wherein q is an integer from 0 to 2;

R^{34} is $(C_1\text{-}C_8)$alkyl, $-(CR^{13}R^{15})_p(C_3\text{-}C_{10})$cycloalkyl, $-(CR^{13}R^{15})_p(C_2\text{-}C_{10})$heterocyclyl, $-(CR^{13}R^{15})_p(C_6\text{-}C_{10})$aryl, or $-(CR^{13}R^{15})_p(C_1\text{-}C_{10})$heteroaryl; wherein p is an integer from 0 to 2;

Each R^{35} is independently selected from the group consisting of H, F, Cl, Br, I, CN, OH, NO_2, $-NH_2$, $-NH\text{-}C(=O)\text{-}O\text{-}C(CH_3)_3$, and CF_3;

Each R^{36} is independently selected from the group consisting of $(C_3\text{-}C_{10})$cycloalkyl, $(C_2\text{-}C_{10})$heterocyclyl, $(C_6\text{-}C_{10})$aryl, and $(C_1\text{-}C_{10})$heteroaryl;

Each R^{37} is independently selected from the group consisting of $-NR^{25}R^{26}$ and $R^{27}\text{-}O\text{-}$;

R^{38} is $R^{28}\text{-}SO_n\text{-}$; wherein n is 0,1, or 2 when $-SO_n-$ is bonded to R^{28} via an R^{28} carbon atom, or wherein n is 1 or 2 when $-SO_n-$ is bonded to R^{28} via an R^{28} ring nitrogen atom;

R^{39} is $R^{29}R^{30}N\text{-}SO_n$-; wherein n is 1 or 2;

wherein each of said $(C_1\text{-}C_8)$alkyl, wherever it occurs in any of said R^1(a)-(d), R^2(a)-(d), R^3(a)-(j), R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21}, R^{22}, R^{23}, R^{24}, R^{25}, R^{26}, R^{27}, R^{28}, R^{29}, R^{30}, R^{31}, R^{32}, R^{33}, R^{34}, R^{37}, R^{38}, and R^{39} is unsubstituted or substituted with one to four substituents independently selected from the group consisting of $(C_2\text{-}C_8)$alkenyl and R^{40};

wherein each of said $(C_3\text{-}C_{10})$cycloalkyl, $(C_2\text{-}C_{10})$heterocyclyl, $(C_6\text{-}C_{10})$aryl, or $(C_1\text{-}C_{10})$heteroaryl, wherever it occurs in said R^1(b)-(d), R^2(b)-(d), R^3(a)-(j), R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21}, R^{22}, R^{23}, R^{24}, R^{25}, R^{26}, R^{27}, R^{28}, R^{30}, R^{32}, R^{33}, R^{34}, R^{36}, R^{37}, R^{38}, and R^{39} is independently unsubstituted or substituted with one to four substituents independently selected from R^{40};

R^{40} is selected from the group consisting of $(C_1\text{-}C_8)$alkyl, R^{41}, R^{42}, and R^{43};

Each R^{41} is independently selected from the group consisting of F, Cl, Br, I, CN, OH, NO_2, $-NH_2$, $-NH\text{-}C(=O)\text{-}O\text{-}C(CH_3)_3$, COOH, $-C(=O)(C_1\text{-}C_8)$alkyl, $-C(=O)\text{-}O\text{-}(C_1\text{-}C_8)$alkyl, $-NH\text{-}SO_2\text{-}(C_1\text{-}C_8)$alkyl, $-NH\text{-}SO_2\text{-}(C_6\text{-}C_{10})$aryl, and CF_3;

Each R^{42} is independently selected from the group consisting of $(C_3\text{-}C_{10})$cycloalkyl, $(C_2\text{-}C_{10})$heterocyclyl, $(C_6\text{-}C_{10})$aryl, and $(C_1\text{-}C_{10})$heteroaryl;

Each R^{43} is independently selected from the group consisting of:

$-NR^{31}R^{32}$; R^{33}-O-; and $R^{34}\text{-}SO_n$-; wherein n is 0,1, or 2 when $-SO_n$- is bonded to R^{34} via an R^{34} carbon atom, or wherein n is 1 or 2 when $-SO_n$- is bonded to R^{34} via an R^{34} ring nitrogen atom;

wherein each of said $(C_1\text{-}C_8)$alkyl, wherever it occurs in any of R^{40} and R^{41} is independently unsubstituted or substituted with one to four substituents independently selected from the group consisting of R^{44} and R^{45};

wherein each of said $(C_3\text{-}C_{10})$cycloalkyl, $(C_2\text{-}C_{10})$heterocyclyl, $(C_6\text{-}C_{10})$aryl, or $(C_1\text{-}C_{10})$heteroaryl, wherever it occurs in any of said R^{42} or R^{43}, is independently unsubstituted or substituted with one to four substituents independently selected from the group consisting of R^{47} selected from the group consisting of $(C_1\text{-}C_8)$alkyl, R^{44}, and R^{45};

Each R^{44} is independently selected from the group consisting of F, Cl, Br, I, CN, OH, NO_2, $-NH_2$, $-CF_3$, $-C(=NH)\text{-}NH_2$, $-C(=NH)\text{-}NH\text{-}OH$, $-C(=NH)\text{-}NH\text{-}O\text{-}(C_1\text{-}C_8)$alkyl, $-(C=O)\text{-}O\text{-}(C_1\text{-}C_8)$alkyl, $-O\text{-}(C=O)\text{-}(C_1\text{-}C_8)$alkyl, $-(C=O)\text{-}(C_1\text{-}C_8)$alkyl, $-(C=O)\text{-}NH_2$, $-(C=O)\text{-}NH(C_1\text{-}C_8)$alkyl, $-(C=O)\text{-}N<[(C_1\text{-}C_8)\text{alkyl}]_2$, $-NH\text{-}(C=O)\text{-}(C_1\text{-}C_8)$alkyl, R^{37}, and R^{38};

Each R^{45} is independently selected from the group consisting of $(C_3\text{-}C_{10})$cycloalkyl, $(C_2\text{-}C_{10})$heterocyclyl, $(C_6\text{-}C_{10})$aryl, and $(C_1\text{-}C_{10})$heteroaryl;

wherein each of said $(C_1\text{-}C_8)$alkyl wherever it occurs in any of said R^{44} or R^{45} is independently unsubstituted or substituted with one to four substituents independently selected from the group consisting of R^{46} and R^{47};

wherein each of said $(C_3\text{-}C_{10})$cycloalkyl, $(C_2\text{-}C_{10})$heterocyclyl, $(C_6\text{-}C_{10})$aryl, or $(C_1\text{-}C_{10})$heteroaryl, wherever it occurs in any of said R^{43} or R^{44} is independently unsubstituted or substituted with one to four substituents independently selected from the group consisting of $(C_1\text{-}C_8)$alkyl, R^{46} and R^{47};

Each R^{46} is independently selected from the group consisting of F, Cl, Br, I, CN, OH, NO_2, -C(=NH)-NH_2, -C(=NH)-NH-OH, -C(=NH)-NH-O-$(C_1\text{-}C_8)$alkyl, -(C=O)-O-$(C_1\text{-}C_8)$alkyl, -O-(C=O)-$(C_1\text{-}C_8)$alkyl, -(C=O)-$(C_1\text{-}C_8)$alkyl, -(C=O)-NH_2, -(C=O)-NH$(C_1\text{-}C_8)$alkyl, -(C=O)-N<$[(C_1\text{-}C_8)\text{alkyl}]_2$, -NH-(C=O)-$(C_1\text{-}C_8)$alkyl, -C(=NH)-$NH_2$, -C(=NH)-NH-OH, -C(=NH)-NH-O-$(C_1\text{-}C_8)$alkyl, -(C=O)-O-$(C_1\text{-}C_8)$alkyl, -O-(C=O)-$(C_1\text{-}C_8)$alkyl, -(C=O)-$(C_1\text{-}C_8)$alkyl, -(C=O)-NH_2, -(C=O)-NH$(C_1\text{-}C_8)$alkyl, -(C=O)-N>$[(C_1\text{-}C_8)\text{alkyl}]_2$, -NH-(C=O)-$(C_1\text{-}C_8)$alkyl, R^{37}, and R^{38}; and

Each R^{47} is independently selected from the group consisting of $(C_3\text{-}C_{10})$cycloalkyl; $(C_2\text{-}C_{10})$heterocyclyl, $(C_6\text{-}C_{10})$aryl, and $(C_1\text{-}C_{10})$heteroaryl;

or a pharmaceutically acceptable salt thereof.

2. The compound according to claim 1 wherein R^3 is $(C_1\text{-}C_8)$alkyl substituted with one to four substituents independently selected from the group consisting of F, OH, -NH_2, $(C_1\text{-}C_8)$alkyl-NH-, $(C_3\text{-}C_{10})$cycloalkyl, $(C_2\text{-}C_{10})$heterocyclyl, $(C_6\text{-}C_{10})$aryl, and $(C_6\text{-}C_{10})$heteroaryl.

3. The compound according to claim 1 wherein R^3 is selected from the group consisting of $(C_2\text{-}C_8)$alkenyl, $(C_2\text{-}C_8)$alkynyl, $(C_3\text{-}C_6)$cycloalkyl, $(C_2\text{-}C_{10})$heterocyclyl, phenyl, and $(C_1\text{-}C_{10})$heteroaryl; wherein each of said $(C_2\text{-}C_8)$alkenyl or $(C_2\text{-}C_8)$alkynyl is unsubstituted or substituted with one to three substituents independently selected from the group consisting of F, OH, -NH_2, $(C_1\text{-}C_8)$alkyl-NH-, $[(C_1\text{-}C_8)\text{alkyl}]_2$>N-, $(C_3\text{-}C_{10})$cycloalkyl, $(C_2\text{-}C_{10})$heterocyclyl, $(C_6\text{-}C_{10})$aryl, and $(C_1\text{-}C_{10})$heteroaryl; and wherein each of said $(C_3\text{-}C_6)$cycloalkyl, $(C_2\text{-}C_{10})$heterocyclyl, phenyl, or $(C_1\text{-}C_{10})$heteroaryl is unsubstituted or substituted with one to four substituents independently selected from the group consisting of $(C_1\text{-}C_8)$alkyl, F, OH, -NH_2, $(C_1\text{-}C_8)$alkyl-NH-, $[(C_1\text{-}C_8)\text{alkyl}]_2$>N-, $(C_3\text{-}C_{10})$cycloalkyl, $(C_2\text{-}C_{10})$heterocyclyl, $(C_6\text{-}C_{10})$aryl, and $(C_1\text{-}C_{10})$heteroaryl.

4. The compound according to claim 1 wherein R^3 is -C(=O)-$NR^{13}R^{14}$ {wherein R^{13} is H or $(C_1\text{-}C_8)$alkyl}, wherein said R^{13} $(C_1\text{-}C_4)$alkyl is unsubstituted or substituted with one to four substituents independently selected from the group

consisting of F, OH, $-NH_2$, R^{41}, and R^{42}; wherein each of said R^{36} is unsubstituted or substituted with one or two substituents independently selected from the group consisting of (C_6-C_{10})aryl, (C_1-C_{10})heteroaryl, (C_2-C_{10})heterocyclyl, (C_1-C_8)alkyl-NH-, and $[(C_1-C_8)alkyl]_2>N-$; and wherein each of said (C_6-C_{10})aryl substituent is unsubstituted or substituted with one to three substituents independently selected from the group consisting of (C_1-C_8)alkyl, F, Cl, $-CF_3$, and OH.

5. The compound according to claim 1 wherein R^3 is $-NR^{15}-C(=O)-R^{16}$; wherein R^{16} is (C_1-C_8)alkyl unsubstituted or substituted with one to four substituents independently selected from the group consisting of OH, R^{33}-O-, CN, $-NH_2$, (C_1-C_8)alkyl-NH-, $-NH-(CR^{13}R^{15})_t(C_3-C_{10})$cycloalkyl, $-NH-(CR^{13}R^{15})_t(C_2-C_{10})$heterocyclyl, $-NH-(CR^{13}R^{15})_t(C_6-C_{10})$aryl, or $-NH-(CR^{13}R^{15})_t(C_1-C_{10})$heteroaryl-NH- {wherein t is an integer from 0 to 2}, $[(C_1-C_8)alkyl]_2>N-$, $[(C_1-C_8)alkyl][(C_3-C_{10})cycloalkyl]>N-$, (C_3-C_{10})cycloalkyl, (C_2-C_{10})heterocyclyl, (C_6-C_{10})aryl, and (C_1-C_{10})heteroaryl; wherein said R^{33} is (C_1-C_8)alkyl, $-(CR^{13}R^{15})_q(C_3-C_{10})$cycloalkyl, $-(CR^{13}R^{15})_q(C_2-C_{10})$heterocyclyl, $-(CR^{13}R^{15})_q(C_6-C_{10})$aryl, or $-(CR^{13}R^{15})_q(C_1-C_{10})$heteroaryl; and wherein q is an integer from 0 to 2.

6. The compound according to claim 5 wherein said (C_3-C_{10})cycloalkyl substituent wherever it occurs is unsubstituted or substituted with one to four substituents independently selected from the group consisting of (C_3-C_{10})cycloalkyl, (C_2-C_{10})heterocyclyl, (C_6-C_{10})aryl, and (C_1-C_{10})heteroaryl.

7. The compound according to claim 5 wherein said (C_6-C_{10})aryl substituent wherever it occurs is unsubstituted or substituted with one to four substituents independently selected from the group consisting of (C_1-C_8)alkyl, F, Cl, Br, CN, OH, and CF_3.

8. The compound according to claim 5 wherein said (C_2-C_{10})heterocyclyl substituent wherever it occurs is unsubstituted or substituted with one or two substituents independently selected from the group consisting of (C_1-C_8)alkyl, $-(C=O)-(C_1-C_8)$alkyl, $-(C=O)-O-(C_1-C_8)$alkyl, $-S-(C_1-C_8)$alkyl, F, Br, OH, and CF_3.

9. The compound according to claim 1 wherein R^3 is $-NR^{15}-C(=O)-R^{16}$; wherein R^{16} is (C_2-C_8)alkenyl unsubstituted or substituted with one to four substituents independently selected from the group consisting of (C_3-C_{10})cycloalkyl, (C_2-C_{10})heterocyclyl, (C_6-C_{10})aryl, and (C_1-C_{10})heteroaryl; wherein said (C_6-C_{10})aryl substituent is unsubstituted or substituted with one to four substituents independently selected from the group consisting of (C_1-C_8)alkyl, F, Cl, Br, CN, OH, and CF_3; and wherein said (C_2-C_{10})heterocyclyl substituent is unsubstituted or substituted with one or

two substituents independently selected from the group consisting of $(C_1\text{-}C_8)$alkyl, -(C=O)-$(C_1\text{-}C_8)$alkyl, -(C=O)-O-$(C_1\text{-}C_8)$alkyl, -S-$(C_1\text{-}C_8)$alkyl, F, Br, OH, and CF_3.

10. The compound according to claim 1 wherein R^3 is $-NR^{15}\text{-}C(=O)\text{-}R^{16}$; wherein R^{16} is $(C_1\text{-}C_{10})$heteroaryl unsubstituted or substituted with one or two substituents independently selected from the group consisting of $(C_1\text{-}C_8)$alkyl, -(C=O)-$(C_1\text{-}C_8)$alkyl, -S-$(C_1\text{-}C_8)$alkyl, F, Cl, CN, OH, and CF_3.

11. The compound according to claim 10 wherein said R^{16} is pyridinyl.

12. The compound according to claim 1 wherein R^3 is $-NR^{15}\text{-}C(=O)\text{-}R^{16}$; wherein R^{16} is $(C_3\text{-}C_{10})$cycloalkyl unsubstituted or substituted with one or two substituents independently selected from the group consisting of $(C_1\text{-}C_8)$alkyl, F, Cl, CN, OH, NH_2, CF_3, $(C_2\text{-}C_{10})$heterocyclyl, $(C_6\text{-}C_{10})$aryl, and $(C_1\text{-}C_{10})$heteroaryl; wherein said $(C_6\text{-}C_{10})$aryl substituent is unsubstituted or substituted with one to four substituents independently selected from the group consisting of $(C_1\text{-}C_8)$alkyl, F, Cl, Br, CN, OH, and CF_3; and wherein said $(C_2\text{-}C_{10})$heterocyclyl substituent is unsubstituted or substituted with one or two substituents independently selected from the group consisting of $(C_1\text{-}C_8)$alkyl, -(C=O)-$(C_1\text{-}C_8)$alkyl, -(C=O)-O-$(C_1\text{-}C_8)$alkyl, -S-$(C_1\text{-}C_8)$alkyl, F, Br, OH, and CF_3.

13. The compound according to claim 12 wherein said R^{16} $(C_3\text{-}C_{10})$cycloalkyl is selected from the group consisting of cyclopropyl and cyclohexyl.

14. The compound according to claim 12 wherein said $(C_6\text{-}C_{10})$aryl substituent is unsubstituted.

15. The compound according to claim 1 wherein R^3 is $-NR^{15}\text{-}C(=O)\text{-}R^{16}$; wherein R^{16} is $(C_2\text{-}C_{10})$heterocyclyl unsubstituted or substituted with one to four substituents independently selected from the group consisting of $(C_1\text{-}C_8)$alkyl, -(C=O)-$(C_1\text{-}C_8)$alkyl, -(C=O)-O-$(C_1\text{-}C_8)$alkyl, F, Cl, CN, OH, and CF_3.

16. The compound according to claim 15 wherein said R^{16} $(C_2\text{-}C_{10})$heterocyclyl is selected from the group consisting of piperazinyl, piperidinyl, pyrrolidinyl, pyrrolidinonyl, thiadiazolyl, tetrahydroisoquinolinyl, tetrahydronaphthalenyl, and indanyl.

17. The compound according to claim 1 wherein R^3 is $-NR^{15}\text{-}C(=O)\text{-}R^{16}$; wherein R^{16} is phenyl unsubstituted or substituted with one to three substituents independently selected from the group consisting of $(C_1\text{-}C_8)$alkyl, $(C_1\text{-}C_8)$alkyl-O-, F, Cl, Br, CN, OH, and CF_3.

18. The compound according to claim 1 wherein R^1 is $(C_1\text{-}C_8)$alkyl substituted with one to two substituents independently selected from the group

consisting of F, Cl, -OH, $-NH_2$, (C_1-C_8)alkyl-NH-, $[(C_1-C_8)alkyl]_2>N-$, and (C_1-C_8)alkyl-O-; wherein each of said (C_1-C_8)alkyl substituent, wherever it occurs, is independently unsubstituted or substituted with one to three substituents independently selected from the group consisting of $-NH_2$, (C_1-C_8)alkyl-NH-, $[(C_1-C_8)alkyl]_2>N-$, -O-(C=O)-(C_1-C_8)alkyl, (C_2-C_{10})heterocyclyl, (C_6-C_{10})aryl, and (C_1-C_{10})heteroaryl.

19. The compound according to claim 1 wherein R^1 is (C_2-C_8)alkenyl or (C_2-C_8)alkynyl; wherein each of said (C_2-C_8)alkenyl or (C_2-C_8)alkynyl is unsubstituted or substituted with one to two substituents independently selected from the group consisting of $-NH_2$, (C_1-C_8)alkyl-NH-, $[(C_1-C_8)alkyl]_2>N-$, (C_2-C_{10})heterocyclyl, and (C_1-C_{10})heteroaryl; wherein each of said (C_1-C_8)alkyl substituent, wherever it occurs, is independently unsubstituted or substituted with one to three substituents independently selected from the group consisting of $-NH_2$, (C_1-C_8)alkyl-NH-, $[(C_1-C_8)alkyl]_2>N-$, -O-(C=O)-(C_1-C_8)alkyl, (C_2-C_{10})heterocyclyl, (C_6-C_{10})aryl, and (C_1-C_{10})heteroaryl.

20. The compound according to claim 1 wherein R^1 is R^{36} selected from the group consisting of H, Cl, and Br.

21. The compound according to claim 1 wherein R^1 is selected from the group consisting of (C_3-C_6)cycloalkyl, (C_2-C_{10})heterocyclyl, phenyl, and (C_1-C_{10})heteroaryl; wherein each of said (C_2-C_{10})heterocyclyl, phenyl, or (C_1-C_{10})heteroaryl is unsubstituted or substituted with one to three substituents independently selected from the group consisting of (C_1-C_8)alkyl, F, Cl, $-NH_2$, -OH, (C_1-C_8)alkyl-NH-, and $[(C_1-C_8)alkyl]_2>N-$; wherein each of said (C_1-C_8)alkyl substituent, wherever it occurs, is unsubstituted or substituted with one to three substituents selected from $-NH_2$, (C_1-C_8)alkyl-NH-, $[(C_1-C_8)alkyl]_2>N-$, -O-(C=O)-(C_1-C_8)alkyl, (C_2-C_{10})heterocyclyl, (C_6-C_{10})aryl, and (C_1-C_{10})heteroaryl.

22. The compound according to claim 1 wherein R^1 is $-C(=O)-R^5$, wherein R^5 is (C_1-C_8)alkyl-O- or (C_2-C_{10})heterocyclyl.

23. The compound according to claim 1 wherein R^1 is $-C(=O)-NR^6R^7$; wherein each of said R^6 and R^7 are independently H or (C_1-C_8)alkyl; and wherein each of said R^6 and R^7 (C_1-C_8)alkyl are unsubstituted or substituted with one to three substituents independently selected from the group consisting of OH, $-NH_2$, (C_1-C_8)alkyl-NH-, $[(C_1-C_8)alkyl]_2>N-$, (C_2-C_{10})heterocyclyl, and (C_1-C_{10})heteroaryl.

24. The compound according to claim 1 wherein R^2 is H or (C_1-C_8)alkyl unsubstituted or substituted with one to four substituents independently selected from the group consisting of OH, $-NH_2$, (C_1-C_8)alkyl-NH-, $[(C_1-C_8)alkyl]_2>N-$, (C_2-C_{10})heterocyclyl, and (C_1-C_{10})heteroaryl.

25. The compound according to claim 1 wherein R^2 is -C(=O)-R^8, wherein R^8 is selected from the group consisting of (C_1-C_8)alkyl, (C_2-C_8)alkenyl, (C_2-C_8)alkynyl, -NH_2, and R^{37} selected from the group consisting of (C_1-C_8)alkyl-NH-, $[(C_1-C_8)alkyl]_2>N-$, and (C_1-C_8)alkyl-O-; wherein each of said R^8 and R^{37} (C_1-C_8)alkyl, wherever it occurs, is independently unsubstituted or substituted with one to four substituents independently selected from R^{40} selected from the group consisting of F, OH, -NH_2, (C_3-C_{10})cycloalkyl, (C_2-C_{10})heterocyclyl, (C_6-C_{10})aryl, (C_1-C_{10})heteroaryl; (C_1-C_8)alkyl-NH- and $[(C_1-C_8)alkyl]_2>N-$;

wherein each of said R^{40} (C_1-C_8)alkyl, wherever it occurs, is independently unsubstituted or substituted with one to four substituents independently selected from R^{44} independently selected from the group consisting of OH, -NH_2, (C_1-C_8)alkyl-NH-, $[(C_1-C_8)alkyl]_2>N-$, and (C_3-C_{10})cycloalkyl-NH-;

wherein each of said each of said R^{40} (C_3-C_{10})cycloalkyl, (C_2-C_{10})heterocyclyl, (C_6-C_{10})aryl, or (C_1-C_{10})heteroaryl, wherever it occurs, is independently unsubstituted or substituted with one to four substituents independently selected from R^{47} selected from the group consisting of (C_1-C_8)alkyl, OH, -NH_2, (C_1-C_8)alkyl-NH-, $[(C_1-C_8)alkyl]_2>N-$, and (C_3-C_{10})cycloalkyl-NH-; and

wherein each of said R^{47} (C_1-C_8)alkyl, wherever it occurs, is independently unsubstituted or substituted with one to four substituents independently selected from the group consisting of OH, -NH_2, (C_1-C_8)alkyl-NH-, $[(C_1-C_8)alkyl]_2>N-$, and (C_3-C_{10})cycloalkyl-NH.

26. The compound according to claim 1 wherein R^2 is -C(=O)-R^8, wherein R^8 is selected from the group consisting of (C_3-C_6)cycloalkyl, (C_2-C_{10})heterocyclyl, phenyl, or (C_1-C_{10})heteroaryl; wherein each of said R^8 (C_3-C_6)cycloalkyl, (C_2-C_{10})heterocyclyl, phenyl, or (C_1-C_{10})heteroaryl is unsubstituted or substituted with one to four substituents independently selected from R^{40} selected from the group consisting of (C_1-C_8)alkyl, F, OH, -NH_2, (C_1-C_8)alkyl-NH-, $[(C_1-C_8)alkyl]_2>N-$, (C_3-C_{10})cycloalkyl, (C_2-C_{10})heterocyclyl, (C_6-C_{10})aryl, and (C_1-C_{10})heteroaryl; wherein each of said R^{40} (C_1-C_8)alkyl, wherever it occurs, is independently unsubstituted or substituted with one to four substituents independently selected from R^{44} independently selected from the group consisting OH, -NH_2, (C_1-C_8)alkyl-NH-, $[(C_1-C_8)alkyl]_2>N-$, and (C_3-C_{10})cycloalkyl-NH-; wherein each of said R^{40} (C_3-C_{10})cycloalkyl, (C_2-C_{10})heterocyclyl, (C_6-C_{10})aryl, or (C_1-C_{10})heteroaryl is unsubstituted or substituted with one to four substituents independently selected from R^{47} selected from the group consisting of (C_1-C_8)alkyl, OH, -NH_2, (C_1-C_8)alkyl-NH-, $[(C_1-C_8)alkyl]_2>N-$, and (C_3-C_{10})cycloalkyl-NH-; wherein each of

said R^{47} (C_1-C_8)alkyl, wherever it occurs, is unsubstituted or substituted with one to four substituents independently selected from the group consisting of OH, -NH_2, (C_1-C_8)alkyl-NH-, [(C_1-C_8)alkyl]$_2$>N-, and (C_3-C_{10})cycloalkyl-NH.

27. The compound according to claim 1 wherein said R^3 is on position 8 of said compound of the formula I.

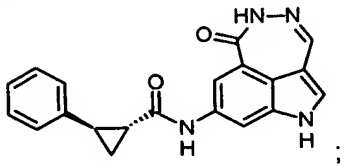
28. The compound according to claim 1 wherein said R^4 is on position 7 of said compound of the formula I.

29. The compound according to claim 1 wherein said R^4 is H on position 7 of said compound of the formula I.

30. The compound according to claim 1 wherein X is =O.

31. The compound according to claim 1 wherein the group -Y-Z- has the formula -N=CH-.

32. The compound according to claim 1 selected from the group consisting of:



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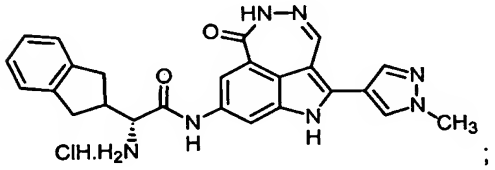

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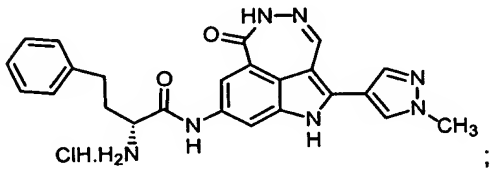

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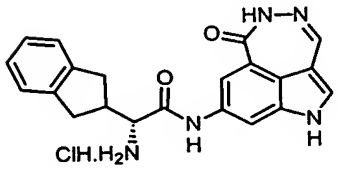

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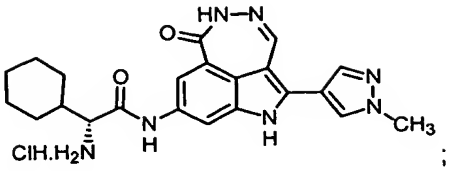
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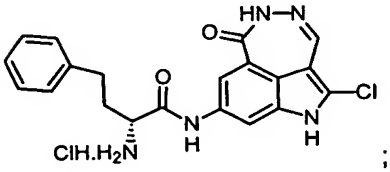
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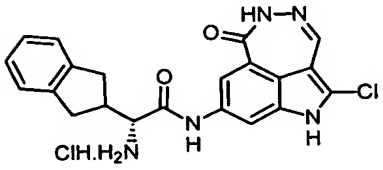
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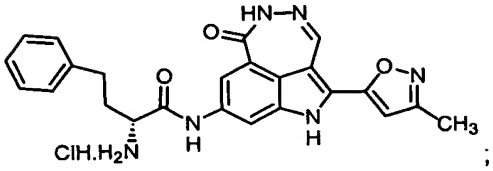
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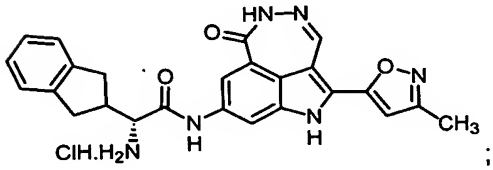
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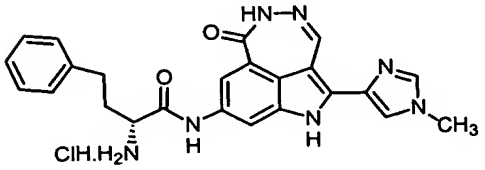
; or

a pharmaceutically acceptable salt or solvate thereof.

33. A pharmaceutical composition comprising:

(a) an effective amount of a CHK-1-inhibiting agent that is a compound according to claim 1; or a pharmaceutically acceptable salt thereof;

(b) an effective amount of an anti-neoplastic agent or therapeutic radiation;

and

(c) a pharmaceutically acceptable carrier for said CHK-1-inhibiting agent.

34. A composition containing a compound according to claim 1 or a pharmaceutically acceptable salt or solvate thereof and an anti-neoplastic agent as a combined preparation for the simultaneous, separate or sequential use in treating a neoplasm.

35. The composition according to claim 34 wherein the anti-neoplastic agent is selected from the group consisting of alkylating agents, antibiotics and plant alkaloids, hormones and steroids, synthetic agents having anti-neoplastic activity, antimetabolites and biological molecules having anti-neoplastic activity.

36. The composition according to any one of claims 34 or 35 wherein the anti-neoplastic agent is selected from the group consisting of Ara-c, VP-16, cis-platin, adriamycin, 2-chloro-2-deoxyadenosine, 9-β-D-arabinosyl-2-fluoroadenine, carboplatin, gemcitabine, camptothecin, paclitaxel, BCNU, 5-fluorouracil, irinotecan, and doxorubicin.

37. A method for treating a neoplasm which comprises administering to a mammal in need thereof, an anti-neoplastic agent in combination with a compound according to claim 1 or a pharmaceutically acceptable salt or solvate thereof.

38. The method of claim 37, wherein the anti-neoplastic agent is selected from the group consisting of Ara-c, VP-16, cis-platin, adriamycin, 2-chloro-2-deoxyadenosine, 9-β-D-arabinosyl-2-fluoroadenine, carboplatin, gemcitabine, camptothecin, paclitaxel, BCNU, 5-fluorouracil, irinotecan, and doxorubicin.

39. A method for treating a neoplasm which comprises administering to a mammal in need thereof, therapeutic radiation having an anti-neoplastic effect in combination with compound according to claim 1 or a pharmaceutically acceptable salt or solvate thereof.

40. A method for enhancing the anti-neoplastic effect of an anti-neoplastic agent in a mammal which comprises administering to a mammal in need thereof, a compound according to claim 1 or a pharmaceutically acceptable salt or solvate thereof, in combination with an antineoplastic agent.

41. A method for enhancing the anti-neoplastic effect of therapeutic radiation in a mammal which comprises administering to a mammal in need thereof, a

compound according to claim 1 or a pharmaceutically acceptable salt or solvate thereof, in combination with therapeutic radiation having an anti-neoplastic effect.

42. A method for the treatment of a condition which can be treated by the inhibition of protein kinases in a mammal, including a human, comprising administering to a mammal in need thereof, a compound according to claim 1 or a pharmaceutically acceptable salt or solvate thereof.

43. The method of claim 42 wherein said condition is selected from the group consisting of connective tissue disorders, inflammatory disorders, immunology/allergy disorders, infectious diseases, respiratory diseases, cardiovascular diseases, eye diseases, metabolic diseases, central nervous system (CNS) disorders, liver/kidney diseases, reproductive health disorders, gastric disorders, skin disorders and cancers.

44. The method of claim 43, wherein said protein kinases are selected from the group consisting of *Checkpoint kinase 1* (CHK-1), *Checkpoint kinase 2* (CHK-2), *Cyclin dependent kinase 1* (CDK1), *Serum and glucocorticoid regulated kinase* (SGK), *Adenosine 5'-monophosphate (AMP)-activated protein kinase* (AMPK), *Lymphoid T cell tyrosine kinase* (LCK), *Mitogen activated protein kinase-2* (MAPK-2), *Mitogen- and stress-activated protein kinase 1* (MSK1), *Rho kinase* (ROCK-II), *P70 S6 kinase* (p70S6K), *cAMP (adenosine 3',5' cyclic monophosphate)-dependent protein kinase* (PKA), *Mitogen activated protein kinase* (MAPK), *Mitogen activated protein kinase-1* (MAPK-1), *Protein kinase C-related kinase 2* (PRK2), *3'-Phosphoinositide dependent kinase 1* (PDK1), *Fyn kinase* (FYN), *Protein kinase C* (PKC), *Protein Kinase C Beta 2* (PKCβII), *Protein Kinase C Gamma* (PKCγ), *Vascular endothelial growth factor receptor 2* (VEGFR-2), *Fibroblast growth factor receptor* (FGFR), *Phosphorylase kinase* (PHK), *Wee1 kinase* (Wee1), and *Protein Kinase B* (PKB).

45. The method of claim 43, wherein said protein kinases are selected from the group consisting of *Checkpoint kinase 1* (CHK-1), *Checkpoint kinase 2* (CHK-2), *Mitogen activated protein kinase* (MAPK), *Mitogen activated protein kinase-1* (MAPK-1), *Mitogen activated protein kinase-2* (MAPK-2), *Vascular endothelial growth factor receptor 2* (VEGFR-2), *Fibroblast growth factor receptor* (FGFR), *Phosphorylase kinase* (PHK), *Protein Kinase B alpha* (PKBα), and *Wee1 kinase* (Wee1).